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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/468,668	12/21/1999	JAMES A. KWEEDER	30-4874	3902

7590 10/27/2005

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EXAMINER

MADSEN, ROBERT A

ART UNIT	PAPER NUMBER
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1761

DATE MAILED: 10/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Advisory Action</b> <b>Before the Filing of an Appeal Brief</b>	<b>Application No.</b> 09/468,668	<b>Applicant(s)</b> KWEEDER ET AL.	
	<b>Examiner</b> Robert Madsen	<b>Art Unit</b> 1761	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 14 September 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.  
 b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

#### AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
 (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
 (b) ☐ They raise the issue of new matter (see NOTE below);  
 (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
 (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
 5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
 6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
 7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: None

Claim(s) objected to: None

Claim(s) rejected: 1-10, 15-17

Claim(s) withdrawn from consideration: None

#### AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
 9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
 10. ☒ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

#### REQUEST FOR RECONSIDERATION/OTHER

11. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: \_\_\_\_\_  
 12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). \_\_\_\_\_  
 13. ☒ Other: See attached Office Action

### DETAILED ACTION

1. The Declaration under 37 CFR 1.132 filed September 14, 2005 is insufficient to overcome the rejections, in particular the rejection of the independent claim 1 based upon Hoogendonk in view of Holland et al. and Hanke et al. and Otsuka et al. as set forth in the last Office action.

2. Claim 1 is directed to a method of prilling a shear thinnable mixture. The declaration states the primary reference, Hoogendonk, cannot be relied on as teaching prilling a shear thinnable mixture because Hoogendonk teaches a thixotropic mixture. Applicant states that one of ordinary skill in the art would not utilize a method of prilling a thixotropic fluid to prill a shear thinning fluid because the design requirements for a thixotropic fluid is different than a shear thinning fluid. Applicant further states not all thixotropic fluids are shear-thinning. However, Applicant has not provided any objective evidence to support this assertion.

3. On the contrary, the art of record provides objective evidence to conclude that the prior art understood thixotropic fluids to be shear-thinning. Hoogendonk teaches a method of prilling a mixture wherein the mixture is described in the following manner, as also quoted in item 6a of the Declaration:

“Due to thixotropic properties of the melts to be sprayed, the shearing stresses produced by the rolling movement of the rotary element causes the melt to remain sufficiently fluid so that no solid material will deposit on the wall or in the spray openings.”

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The above quote states the mixture is thixotropic , and *shear stresses* cause the mixture to remain fluid. Although Hoogendonk teaches the thixotropic material is maintained in a fluid state by shear, Hoogendonk do not *explicitly* state the mixture is "a shear thinnable mixture having a viscosity, whereby the viscosity decreases with increased shear rate.

4. Holland and Hanke et al. are relied on as evidence of the art-recognized meaning of "thixotropic". Holland explicitly states on page 55 "In practice, thixotropic materials are also shear thinning." and shows in Figure 1.19(b) that shear thinning materials have a decreasing viscosity with increasing shear rate. Hanke et al. also explicitly states "Thixotropic or 'shear-thinning' fluids possess a viscosity which decrease as a function of time as well as of shear rate." Therefore, the prior art of record (i.e. Holland and Hanke et al.) unquestionably supports the conclusion that Hoogendonk's method of prilling a thixotropic mixture is also a method of prilling a shear thinnable mixture having a viscosity, whereby the viscosity decreases with increased shear rate.

5. Applicant further asserts that the method of prilling taught by Hoogendonk in combination with the agitator is actually similar to a positive peristaltic pump, evidenced by Exhibit B. However, the claims require a method of prilling a shear thinnable mixture comprising the influence of force by either static pressure or centrifugal force. For the reasons stated in the preceding paragraphs Hoogendonk teaches a method of prilling a shear thinnable mixture. The prill head is rotating, and thus the fluid does flows under the influence of centrifugal force.

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6. Applicant further asserts that Hoogendonk does not teach agitating essentially the entire liquid volume of the reservoir. However, as discussed relative to the shear thinning arguments, Hoogendonk teaches the shearing stresses produced by the rolling movement of the rotary element causes the melt to remain sufficiently fluid so that no solid material will deposit on the wall or in the spray openings. Additionally, the melt is under the influence of centrifugal force. Thus, if the melt remains sufficiently fluid and the centrifugal force causes the melt to move from the center of the prill head to the exit holes, essentially the entire fluid volume is agitated at some point or another throughout the process. Furthermore, based on fluid flow dynamics, if the material in the head is fluid, the rotating of the agitator structure (from items 4, 5, 7 and 8 in Figure 1) would agitate essentially the entire fluid.

7. With respect to Otsuka et al. being applied to claim 1, Hoogendonk teaches how to prill an NPK slurry, but Hoogendonk does not teach how to prepare the slurry. It is noted that making an NPK slurry was something well known to one skilled in the art at the time the invention was made. Thus, with respect to claim 1, Otsuka et al. is relied on as teaching what would be known to one of ordinary skill in the art at the time of the invention: the *conventional* steps used to form the *conventional* NPK slurry.

8. Otsuka et al. is also relied on for teaching the limitations recited in claims 3-5. Hoogendonk teaches how to prill an NPK slurry to form a fertilizer, as well as other slurries with mixtures ammonium nitrate to form a fertilizer, but Hoogendonk does not teach the particular moisture level, including micronutrients, or including ammonium sulfate. Fertilizer slurries including ammonium nitrate were notoriously well known, and

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once again Otsuka et al. is relied on as teaching what would be known to one of ordinary skill in the art at the time of the invention: adding ammonium sulfate to a melt solution of ammonium nitrate. Also, ammonium nitrate fertilizer slurries including both a specific moisture level and micronutrients would have been known to one of ordinary skill in the art at the time the invention was made, and Otsuka et al. is relied on as teaching what would be known to one of ordinary skill in the art at the time of the invention: including micronutrients and 1-2% moisture.

9. Applicant argues the Frenken et al. reference is similar to a pump impeller and does not place an emphasis on sweeping essentially the entire volume of fluid. The rejection of claim 7 was rejected based on Frenken et al. Claims 8-10, which depend from claim 7, have the same limitations as claims 3-5 previously discussed. First, as discussed above in paragraph 6, Hoogendonk does teach agitating essentially the entire volume of fluid. Second, Applicant has not placed on emphasis on surface wiping blades, since they appear in a dependent claim. Third, Hoogendonk teaches prilling NPK fertilizer and Frenken et al. teach prilling NPK fertilizer. Frenken et al. in particular teach adjustable surface wiping blades provide the benefits of maintaining mixtures in a fluid state, as desired by Hoogendonk, and maintaining a constant flow out of the prill head. Thus, one would have had some expectation of success since the purpose of the wiping blades is the same as Hoogendonk's agitators (i.e. maintain fluidity) and provides the further benefit of maintaining a constant flow out of a prill head.

10. Applicant further argues that location of the blades of Frenken relative to the prill head wall is not limited to a particular distance. However, it is noted that the agitator of

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the primary reference Hoogendonk does contact the head wall. Frenken is relied on for motivation to modify the particular design of the agitator (i.e. to form a wiping blade) for the benefit of maintaining the flow out of the prill head.

11. With respect to the Bassetti and Stengel references, applicant states these references do not remedy the deficiencies of Otsuka, Hoogendonk, or Frenken. They are relied on for the reasons stated in the Office Action Mailed December 17, 2004.

12. In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness.

### ***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Madsen whose telephone number is (571) 272-1402. The examiner can normally be reached on 8:00AM-4:30PM M-F.

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

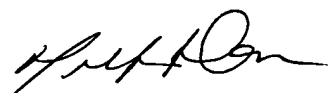
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15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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